WHEEL LOADER

SERVICE MANUAL

HL740-3A

HYUNDAI

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CONTENTS

SECTION 1 GENERAL

Group 1 Safety Hints 1-1
Group 2 Specifications 1-10
Group 3 Operational Checkout Record Sheet 1-22

SECTION 2 ENGINE

Group 1 Structure and Function 2-1

SECTION 3 POWER TRAIN SYSTEM

Group 1 Structure and Function 3-1
Group 2 Operational Checks and Troubleshooting 3-59
Group 3 Test and Adjustments 3-71
Group 4 Disassembly and Assembly 3-74

SECTION 4 BRAKE SYSTEM

Group 1 Structure and Function 4-1
Group 2 Operational Checks and Troubleshooting 4-23
Group 3 Tests and Adjustments 4-31
Group 4 Disassembly and Assembly 4-33

SECTION 5 STEERING SYSTEM

Group 1 Structure and Function 5-1
Group 2 Operational Checks and Troubleshooting 5-14
Group 3 Tests and Adjustments 5-21
Group 4 Disassembly and Assembly 5-28

SECTION 6 WORK EQUIPMENT

Group 1 Structure and Function 6-1
Group 2 Operational Checks and Troubleshooting 6-40
Group 3 Tests and Adjustments 6-51
Group 4 Disassembly and Assembly 6-67

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SECTION 7 ELECTRICAL SYSTEM

Group 1 Component Location 7-1
Group 2 Electrical Circuit 7-3
Group 3 Monitoring System 7-23
Group 4 Electrical Component Specification 7-34
Group 5 Connectors 7-42
Group 6 Troubleshooting 7-56

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2. TROUBLESHOOTING

1) SERVICE BRAKE

Diagnose malfunction charts are arranged from most probable and simplest to verify, to least likely, more difficult to verify. Remember the following steps when troubleshooting a problem :

Step 1. Operational check out procedure(See section 1)
Step 2. Operational checks(In this group)
Step 3. Troubleshooting
Step 4. Tests and adjustments(See group 3)

Problem	Cause	Remedy
Poor or no brakes	Brake accumulator charge low.	Do brake accumulator check.
	Brake pump standby pressure low.	Do brake pump standby pressure test.
	Brake pressure low.	Do brake valve pressure test.
	Air in system.	Bleed brakes.
	Worn brake surface material.	Inspect brake surface material.
	Leakage in brake valve.	Do brake valve leakage test.
	Leakage in brake piston seal.	Check for an over filled differential. Apply brakes and check for leakage from check plug. ※ **It is normal for the oil level to be slightly above the check plug.**
	Incorrect oil.	Change oil.
Aggressive brakes	Internal restriction in circuit.	Remove lines and components.
	Brake valve malfunction.	Disassemble and inspect.
	Low oil level.	Check oil level.
	Incorrect oil.	Change oil.
Brakes drag	Brake pedal not returning properly.	Inspect floor mat and pedal.
	Debris holding valve partially open in brake valve.	Do brake valve pressure test.
	Warped brake disk.	Inspect brake disk.
	Stuck brake piston.	Repair.
	Incorrect oil.	Change oil.
Brakes lock up	Brake valve malfunction.	Clean or replace brake valve.

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5. MAIN HYDRAULIC PUMP FLOW TEST

- **SPECIFICATION**

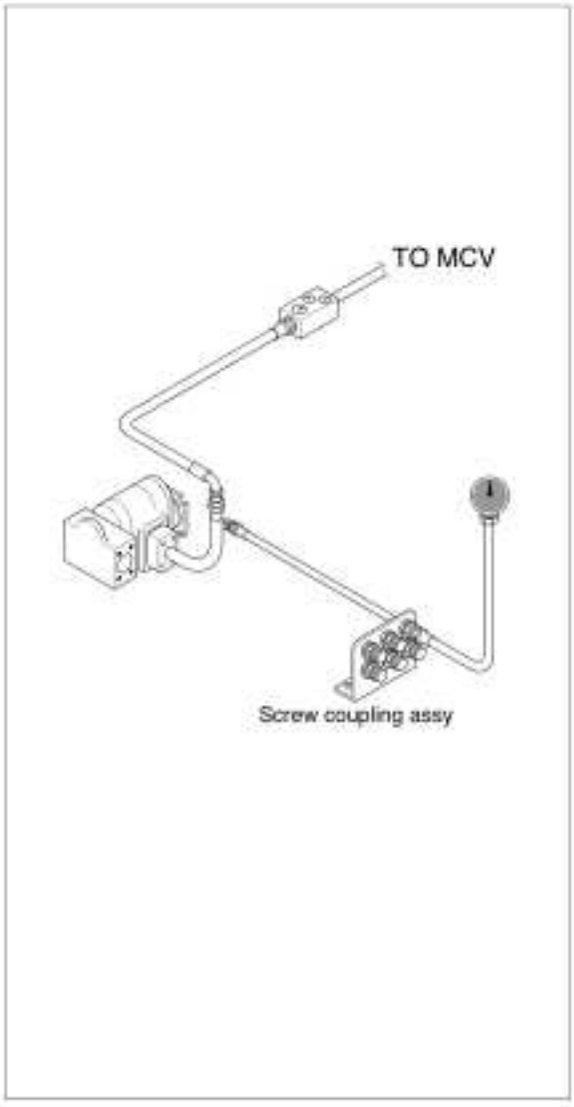
Oil temperature	45± 5°C (113± 41°F)
Engine speed	2200± 25rpm
Test pressure	220± 10bar(3190psi)
Maximum pump flow	86 ℓ/min(22.7gpm)

- **FLOW METER GAUGE AND TOOL**

  Gauge 0~35MPa(0~350bar, 0~5000psi)

  Temperature reader

1) Make test connections.
2) Install temperature reader.
   (See temperature reader installation procedure in this group.)
3) Heat hydraulic oil to specifications.
   (See hydraulic oil warm up procedure in this group.)
4) Run engine at test specifications.
5) Close flow meter loading valve to increase pressure to test specifications.
6) Read flow meter.
7) If flow is below specifications, check suction line and suction pressure for abnormality before removing pump.



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GROUP 5 CONNECTORS

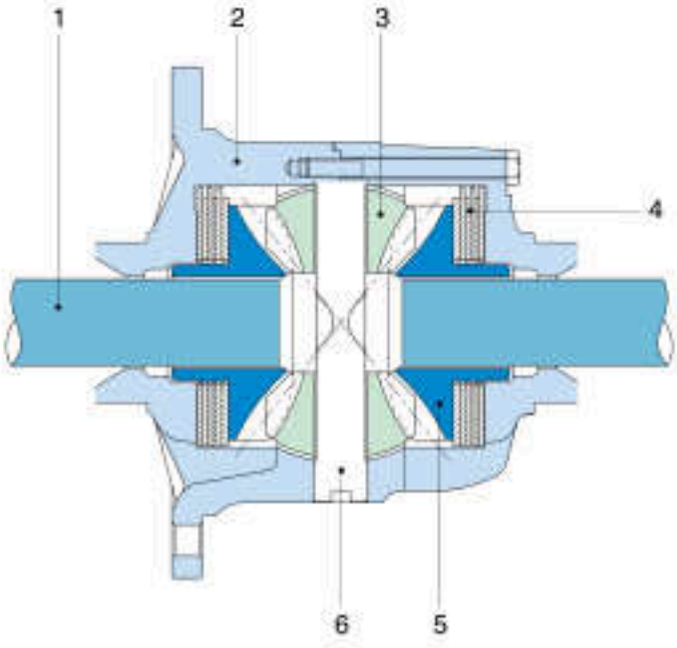
1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	58	2	I/conn(Frame harness-Main harness)	S813-030200	S813-130200
CN-2	SWP	12	I/conn(Frame harness-Main harness)	S814-012000	S814-112000
CN-3	SWP	12	I/conn(Frame harness-Main harness)	S814-012000	S814-112000
CN-4	SWP	12	I/conn(Front harness-Engine harness)	S814-012000	S814-112000
CN-5	SWP	8	I/conn(Cab harness-Main harness)	S814-008000	S814-108000
CN-6	SWP	12	I/conn(Gauge harness-Main harness)	S814-012000	S814-112000
CN-7	SWP	14	I/conn(Gauge harness-Main harness)	S814-014000	S814-114000
CN-8	SWP	14	I/conn(Front harness-Main harness)	S814-014000	S814-114000
CN-10	SWP	8	I/conn(Front harness-Main harness)	S814-008000	S814-108000
CN-12	SWP	12	AC AVA assembly	S814-012000	-
CN-13	SWP	8	AC AVA assembly	S814-008202	-
CN-15	Circular	10	I/conn(Main harness-T/M harness)	6029199086	6029199085
CN-16	Circular	10	I/conn(Main harness-T/M harness)	6029199086	6029199085
CN-20	Molex	2	Horn	35215-0200	-
CN-21	HW090 Sealed	6	Front wiper motor	6189-0133	-
CN-22	SWP	2	Front washer tank	S814-002000	-
CN-23	Shur	1	Speaker(LH)	S822-014000	S822-114004
CN-24	Shur	1	Speaker(RH)	S822-014000	S822-114004
CN-25	Molex	2	Horn	35215-0200	-
CN-26	250	2	Warning buzzer	S810-002202	-
CN-27	PA	9	Cassette and radio	S811-009003	-
CN-28	56 series	2	Compressor(Air conditioner)	0297-3407	-
CN-29	Grommet	-	Receiver drier	21L7-12000	-
CN-30	PA	13	Air conditioner controller	S811-013002	-
CN-36	-	-	Fuse box	24L1-04100	-
CN-45	Ring term	-	Starter	S820-414000	S820-304000
CN-48	250	2	Hour meter	S810-002202	-
CN-58	Econoseal III	36	Check unit	344111-1	-
CN-60	58	2	Fusible link	-	S813-130200
CN-65	Shur	1	Back up buzzer	S822-014000	-
CN-71	J	2	Parking solenoid	S816-002001	-
CN-74	Ring term	-	Alternator	S820-406000	S820-104000
CN-79	Weather pack	3	Fuel cut off solenoid	S818-020311	-
CN-83	MWP	2	Air conditioner fan	PH805-02028	-
CN-100	J	3	Boom kick out	S816-003001	-
CN-101	J	3	Bucket leveler	S816-003001	-

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2) SECTION OF FRONT AXLE DIFFERENTIAL(LIMITED SLIP)

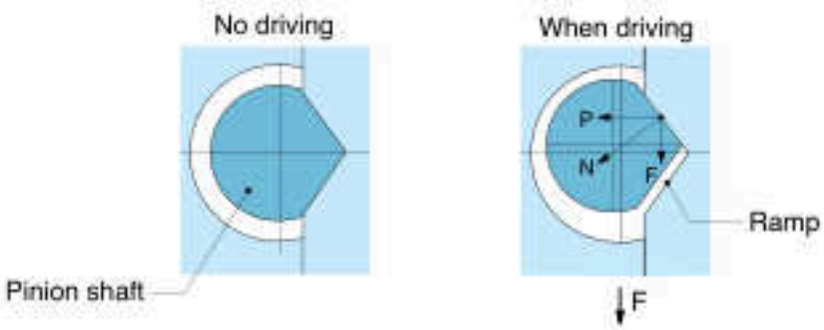
(1) Structure



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1	Axle shaft	4	Clutch
2	Case	5	Side gear
3	Pinion gear	6	Pinion shaft

2) Operation



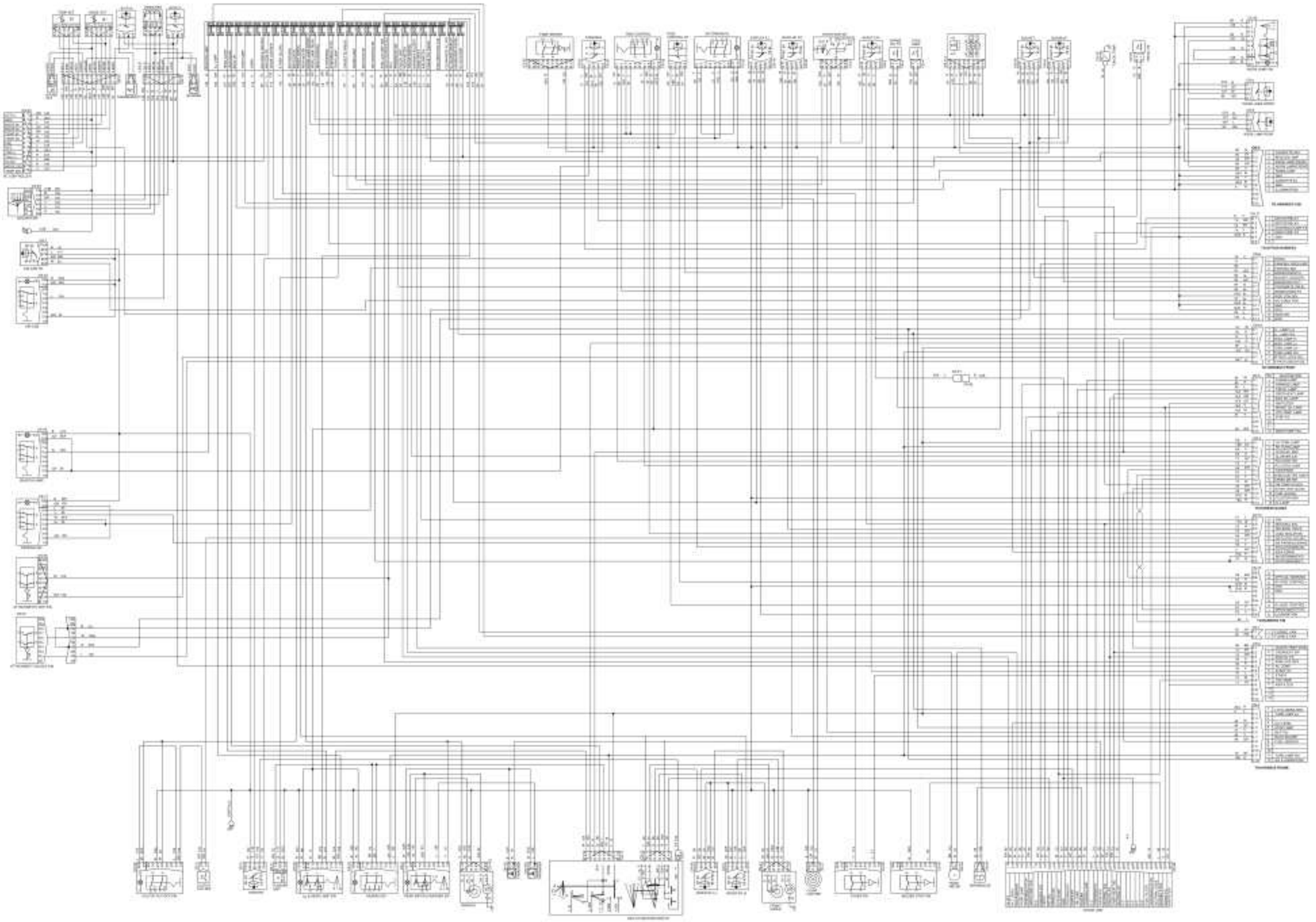
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When the differential case is rotated, pinion shaft is moved up on the ramp by the resistance force of tires as the figure, and then force P is generated. This force P becomes the engaging force of clutch.

① When travelling straight(equal resistance from road surface to left and right tires). Under this condition, both clutch are engaged and the left and right side gears are driveb wutg tge sane firce.

② When travelling on soft ground(Resistance from road surface to right tire is smaller). At rotating speed of right tire becomes faster than left due to the smaller resistance of right tive, right clutch is engaged and torque of faster rotating right axle shaft is added to left axle shaft through differenting gear case.

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